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Mountaintop Removal: Is It Worth the Cost of Life and “Limb” In Appalachia?

by Amelia Boggs

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Abstract

Mountaintop Removal (MTR) is a mining technique involving the extraction of coal by blowing off the tops of mountains to access coal seams. This technique leaves permanent, eco-destructive changes in places like Appalachia, an area being stripped of its beauty due to our obsession with coal and the enriching of the economically and politically powerful coal industries. Are there alternatives? If so, what are they? What can be done?

Americans have grown so accustomed to “power at our fingertips” that we fail to think about its origin. This paper addresses the use of coal as a major source of energy, the MTR method and its ramifications.

The Coal Obsession

Today, 21% of all energy and half the electricity generated in the United States are powered by coal (TEEIC). In order for current coal needs to be met, an area the size of Washington D.C. needs to be mined for 81 consecutive days (Lutz, et. al. 2013). Since the Energy Crisis of the 1970's, the mountaintop removal method of coal extraction has rapidly increased to meet the demands of the United States and the world (Burns, 2009).

What is MTR?

Mountaintop removal begins with eradicating entire forests and building roads to access the worksites (Lutz 2013). Holes are drilled into the tops of mountains to hold dynamite that will blast as much as hundreds of meters of rock and soil loose in order to expose coal seams that previously were unreachable. An enormous earth-moving machine called a dragline is used to access the coal. Excess rock and soil, termed “overburden” is discarded down the mountain. This mixture inevitably makes its way into the soil and ground water contaminating the water table of the vicinity and beyond (Burns 2009).

Large moving equipment is then used to load and transport the coal to an energy production plant by way of freight haulers. These plants are usually many kilometers away from the mining site (Burns 2009).

History of Coal Mining

The Hopi Indians of the 14th century were one of the first in North America to discover the heating capacity of coal. Explorers, and later the armies of the Civil War, would find that coal was a useful source of energy. The first commercial coal mine was not dug until the 1740's in Virginia. Continuous, room and pillar and long wall methods of coal extraction have been used for many years (USDOE 2013). Then, over 30 years ago, MTR began to be used on a large scale (Woods 2011, Hendryx 2011). This method is less dangerous, labor-intensive and less expensive than the underground methods used historically (Hendryx 2011).

Why Appalachia?

Appalachia is home to over 500 mountain peaks. It extends from southern New York to northern Mississippi (Hendryx 2011). The coal extraction sites are mainly in West Virginia, Virginia, Kentucky and Tennessee with West Virginia being the 2nd largest coal-producing state in the nation—having the most permits issued for MTR (Holzman, 2011). In 2007, this area “boasted” the production of over one billion metric tons of coal extracted from the ancient Appalachian mountain area (Fraleay, 2007). From here, the U.S. extracts 35% of its coal (Strobo 2012).

The people of Appalachia are also an easy target for exploitation. This area is one of the poorest regions of the country and unable to advocate successfully against the powerful coal industry (Fraley, 2007). This makes the task of ending MTR difficult and the domination by the coal industry likely to continue (Fraley 2007).

One of the main arguments of those promoting MTR in the Appalachian region today is an old mantra stemming from a study decades ago that sought to tout the benefits of the industrial revolution—“coal means jobs” (Woods 2011). In effect, the coal industry is helping this area by creating income that otherwise would not exist—the end perception being a much-improved standard of living for the people of Appalachia. However, studies fail to support this assertion (Woods 2011).

Some ponder whether this whole dynamic is fueled by hegemony. Mining companies characteristically come into an area proclaiming their care and concern for the resident’s well being and that of the land. However, the whole story is not told, and what is told is often deceptive (Woods 2011).

Environmental Issues

Spoils from MTR are discarded into valleys polluting entire watersheds that provide sources of drinking water to local residents (Cavendar et al. 2014). The surface soil left after MTR is compacted contains toxic materials. Flyrock, the fragments that catapult upward or along the ground outside the work zone as a result of the explosion threatens the safety of workers. Repeated explosions to remove mountaintops crack walls of homes. Hazardous coal dust contaminates the air—a “rotten eggs” smell is thought to be from hydrogen sulfide associated with the ore (Hendryx 2011, Strobo 2012).

Coal contaminants found in the air, water, and soil are linked to multiple diseases such as cancer, and lung and kidney disease (Hendryx 2011, Strobo 2012). Flooding of ponds intended to hold spoils further contaminate the soils and supplies of drinking water (Holzman 2011, Woods 2011).

The earth comes equipped with a natural filter of potentially harmful chemicals. The terrestrial sequestration process collects and stores carbon dioxide in plants as well as stores carbon in the soil. Among all the plant life, forests have the greatest rate of sequestration. However, the process of MTR devastates thousands of hectares of forests, limiting natural terrestrial sequestration of greenhouse gases (Cavendar et al. 2014, TEEIC).

Whose Responsibility?

Multiple lawsuits by local residents of Appalachia have been filed (Holzman 2011). In Mingo County, West Virginia, three communities found lead, arsenic and dangerous levels of manganese and iron in their water as a result of MTR. The Environmental Protection Agency (EPA) has set safe levels of manganese at less than or equal to 50ppb. Here 4,063 ppbs were found (Holzman 2011).

MTR mining companies are responsible for over 2,000 square miles of deforestation and for permanently burying more than 2,000 miles of headwater streams (Hendryx 2011; Strobo 2012). The mining companies agree to proper reclamation of the site but many do not follow through (TEEIC; Cavendar et al. 2014).

Global Perspective

It is not simply the U.S. that is coal dependent. The US exported a total of 24,557,026 short tons of coal in the first quarter of this year. Half of that went to Europe, another portion to the East as well as South America, Mexico, etc. (EIA 2014). Meanwhile, Germany has been at work over the last 40 years to move toward energy independence. They are actively taking steps to lowering the global temperature and are investing in subsidized renewable energy (Strobo 2012). Many countries have committed themselves to a Renewable Energy Directive at various levels—from Malta at 10% to Sweden at 49%. Sweden is leading the way as they are already reaching, even exceeding, their 2020 goals. Most of their success is due to the use of solid biofuels and onshore wind power. These countries have put in place mandatory national targets that help investors feel secure and encourage

further technological development in finding renewable sources of energy (European Commission 2014; European Parliament Council 2009).

Solutions

People are most often the cause and the solution to the problems of this planet. The Appalachian people are no different. They have a long history of seeking to take on the giants of major coal corporations and eventually the federal government as well (Burns 2009). Two local environmental watch groups in West Virginia, the Coal River Mountain Watch (CRMW) and the Ohio Valley Environmental Coalition (OHVEC), are actively fighting for their right to a healthy environment (Burns 2009).

The Obama administration has succeeded in establishing more stringent requirements in order to mine new sites. In 2010, there were 175 requests for new mine operations, but the EPA only signed off on 48 (Holzman 2011).

As a nation and global community, we must use what we know—more efficient vehicles, homes and businesses as well as look for alternative forms of energy such as wind, solar, hydro, geothermal and others (Cunningham et al. 2012). The Appalachian area is best suited for wind and hydro renewable technology. However, unless MTR is stopped, the alterations in topography will sabotage these options (Strobo 2012).

Currently, terrestrial and geologic sequestration are alternatives being pursued (Burns 2009; EPA 2013). The use of wood residue from forested areas instead of coal for energy is another. This involves utilizing tops of trees, branches and debris that have fallen on the ground. However, this solution needs careful thought and study because of the adverse affects of disturbing the natural biomass environment of the forest floors (Parent et. al. 2014).

The Appalachian Mountains are only an example of the ecological destruction that is compounding in the world today. While the corporations play a major role, the individual does as well. Each person holds the key for the next generation. Planet Earth and the next generation are at stake. Dietrich Bonhoeffer made a sobering statement-- that the true moral condition of a society is seen in the state one generation leaves to the next (Cunningham et al., 2012).

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